

REMARKS/ARGUMENTS

By the foregoing amendment, claims 1, 13 and 34 have been amended for purposes of clarification and to correct minor errors and inconsistencies. No new matter has been added. Reconsideration is respectfully requested.

Allowable Claims 1-6, 13-14 and 29-33

In the Office Action, claims 1-6, 13-14 and 29-33 were indicated to be allowable if the claim objections and obviousness-type double patenting rejections stated in the office action were overcome. By the foregoing amendment, claims 1 and 13 have been amended to correct minor typographical errors and inconsistencies, thereby overcoming all stated claim objections. Also, filed concurrently with this response, are duly executed terminal disclaimers to obviate the stated obviousness-type double patenting rejections and provisional obviousness-type double patenting rejections stated in the Office Action with respect to United States Patent Nos. 6,190,353; 6,302,875; 6,375,615; 6,544,230 and 6,726,677 and United States Patent Application Serial Nos. 10/549,012 and 10/773,836.

Accordingly, the claim objections and double patenting rejections have been overcome and claims 1-6, 13-14 and 29-33 are in condition for allowance.

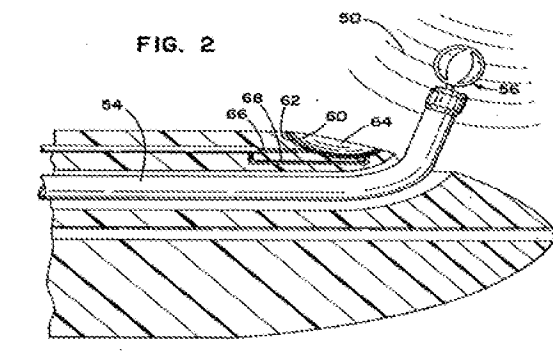
35 U.S.C. §103 Rejection of Claims 34 and 36-45

In the Office Action, claims 34 and 36-45 were rejected under 35 U.S.C. 103(a) as being obvious over United States Patent No. 5,345,940 (Seward et al.) in view of United States Patent No. 5,588,432 (Crowley).

In this paper, the language of independent claim 34 has been clarified. As now amended, claim 34 recites a catheter device that is useable to direct a tissue penetrating device, substance or flow of energy from the catheter while the catheter is positioned in a vessel lumen within a patient's body to a target location outside of that vessel lumen. Claim 34 further requires the catheter device to comprise: (A) a catheter having a proximal end, a distal end and a peripheral wall, said catheter being advanceable into the lumen of said vessel; (B) an exit location from which a tissue penetrating device, substance or flow of energy may be laterally advanced from the catheter on an expected path; and (C) an imaging transducer on or in the catheter, said imaging transducer being operative to provide, when the catheter is positioned in said vessel

lumen but before advancement of the tissue penetrating device, substance or flow of energy, an image of the target location along with an indication of the expected path on which the tissue penetrating device, substance or flow of energy will subsequently advance from the catheter. It is respectfully submitted that, as now amended, claim 34 is clearly patentable over Seward et al. and Crowley.

Figure 2 of Seward et al. is reproduced below for ease of reference:



Seward et al. describes a self contained ultrasound device for the delivery of therapeutic and other types of tools to be visualized in an ultrasound-type environment within the blood before, during, and after an intervention includes a catheter having a catheter body with a proximal and distal ends. The catheter contains an ultrasonic transducer (e.g., item 64) proximate its distal end. An access port is provided in the catheter for delivery of a therapeutic device (e.g., item 56) or the like to proximate the distal end of the catheter body. A guide wire port is further provided for insertion therethrough of a guide wire. Seward et al. is not seen to describe any “circumferential locator array for an imaging transducer in a penetrating tool catheter such as Crowley et al.” as stated at pages 2-3 of the Office Action.

Crowley et al. describes an acoustic imaging system for use within the heart. The described system includes a catheter, an ultrasound device incorporated into the catheter, and an electrode mounted on the catheter. The ultrasound device directs ultrasonic signals toward an internal structure in the heart to create an ultrasonic image, and the electrode is arranged for electrical contact with the internal structure. A chemical ablation device mounted on the catheter ablates at least a portion of the internal structure by delivery of fluid to the internal structure. The ablation device includes a material that vibrates in response to electrical excitation, the ablation

being at least assisted by vibration of the material. The ablation device may alternatively be a transducer incorporated into the catheter, arranged to convert electrical signals into radiation and to direct the radiation toward the internal structure. The electrode may be a sonolucent structure incorporated into the catheter, through which the ultrasound device is arranged to direct signals. An acoustic marker mounted on the catheter emits a sonic wave when electrically excited. A central processing unit creates a graphical representation of the internal structure, and super-imposes items of data onto the graphical representation at locations that represent the respective plurality of locations within the internal structure corresponding to the plurality of items of data. A display system displays the graphical representation onto which the plurality of items of data are super-imposed.

The device recited in Applicant's amended independent claim 34 is distinguishable over Seward et al. and Crowley on a number of grounds. For example, neither Seward et al. nor Crowley describe or suggest any catheter that has an imaging transducer operative to provide, when the catheter is positioned in a vessel lumen but before advancement of a tissue penetrating device, substance or flow of energy laterally from the catheter, an image of a target location along with an indication of the expected path on which the tissue penetrating device, substance or flow of energy will subsequently advance from the catheter. Thus, claim 34 is now patentable over Seward et al. and Crowley. Claims 36-45 depend directly or indirectly from claim 34 and are also distinguishable over Seward et al. and Crowley for at least the same reasons as claim 34 as well as other reasons not specifically articulated here.

Conclusion

For the foregoing reasons, Applicant believes all the pending claims are in condition for allowance and should be passed to issue. The Commissioner is hereby authorized to charge any additional fees which may be required under 37 C.F.R. 1.17, or credit any overpayment, to Deposit Account No. 01-2525. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at telephone (707) 543-5484.

Respectfully submitted,

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